

SoloCAT ™
CAT5/5e/6 Extenders

Installation Manual

WARNING

This equipment is not intended for, nor does it support, distribution through an Ethernet network. Do not connect these devices to any sort of networking or telecommunications equipment!

1. Specifications

Cable	CAT5/5e/6
Video resolutions	1080p / 1920X1200 (WUXGA)
Video enhancement	Optimized gain control and equalization
VGA version	Local DDC pass through
Transmission distance	500’ powered one side* 1000’ powered both sides*
Audio	Analog stereo / SPDIF
Audio Connections	RCA or 3.5mm jack
Video Connections	BNC / RCA / VGA
Power	15V DC <1 Amp
Operating temperature	32 to 131 deg F (0 to 55C)
Connectors	RCA (Component & SPDIF) RJ45F
Enclosure	Metal, RF shielded
Dimensions	7” X 4” x 1.5”
Weight	<1 lb
Warranty	2 years

*The SoloCAT™ wall plate version will support audio, video and power up to 1000’ when transmitted from a Zektor Prowler CAT5 matrix switch. If the wall plate is used with a SoloCAT™ stand alone transmitter, a maximum of 500’ is supported. In addition, power will need to be applied at the transmitter side only.

2. Introduction

Overview

Thank you for purchasing a premium quality Zektor SoloCAT™ product. Our CAT5 Video System SoloCAT series extends component video with stereo analog or digital audio signals over commonly available Category 5 cable. Through enhanced engineering, Zektor is able to accomplish audio, video and power transmission over a SINGLE CAT5/5e/6 cable whereas most manufacturers require two cables to do the same transmission with lesser results. Analog or digital audio can be supplied at the transmitter side, analog and digital audio will be available, simultaneously, on the receiver side.
Note: The receiver analog outputs will only output digital audio if it is PCM stereo digital audio. If Dolby, or DTS digital audio is received, it will only be available on the digital output of the receiver, the analog outputs will be muted.

This user manual covers the Zektor SoloCAT™ CAT5 Audio Video CATX Transmission Products.

Included items

• SoloCAT™ Transmitter (if ordered as a pair with a SoloCAT™ receiver)
• SoloCAT™ Receiver (wall plate or flush mount)
• 100-220VAC 50-60Hz – 12VDC Power Adapter (good for up to 500’)
• SoloCAT™ Manual
• Optional additional Power Adapter (required for runs from 500’ to 1,000’)

Required supplies (Not included)

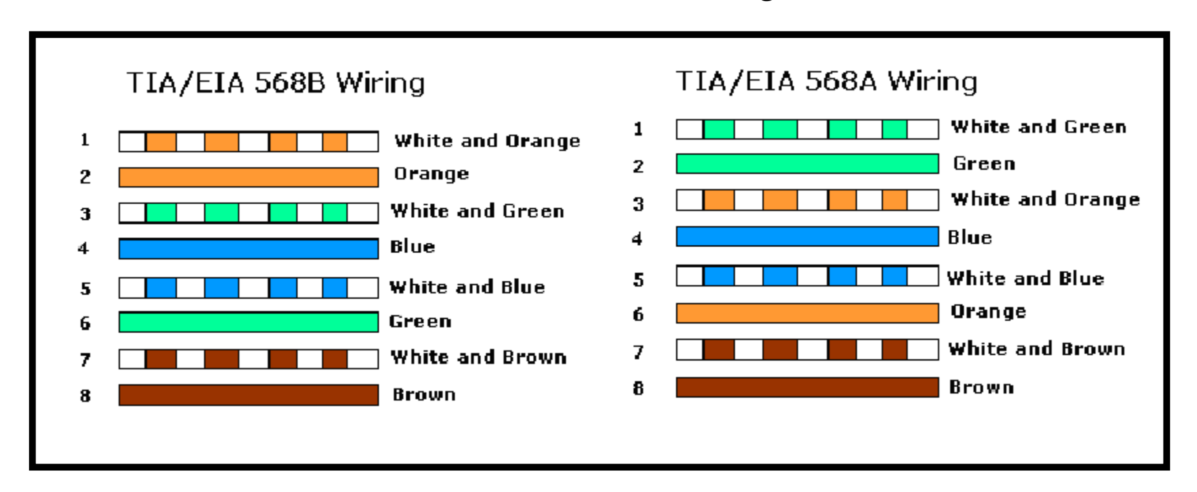
• Component video cables and either stereo analog and/or RCA digital audio cables.
• Shielded or unshielded CAT5/5e/6 cable.
• Small screwdriver for adjusting picture on receiver module.

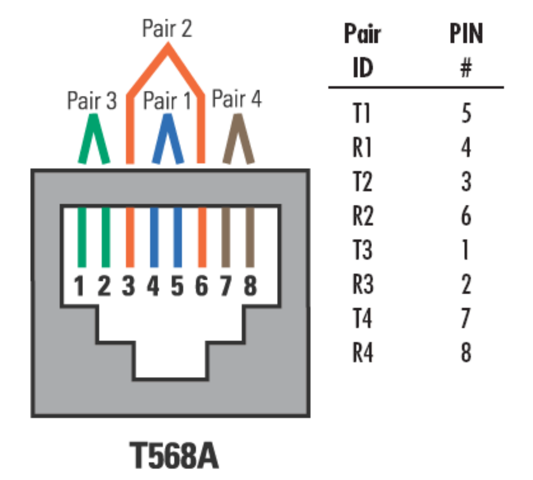
Compatible Cabling

Zektor Inc. products are compatible with Cat5/5e/6 data cabling as well as skew free CAT5/5e/6 cabling manufactured for video applications. CAT6 cable, due to the manufacture method, can exhibit much greater skew than standard CAT5/5e and may require the skew compensation option. Please contact Zektor Inc. for assistance.

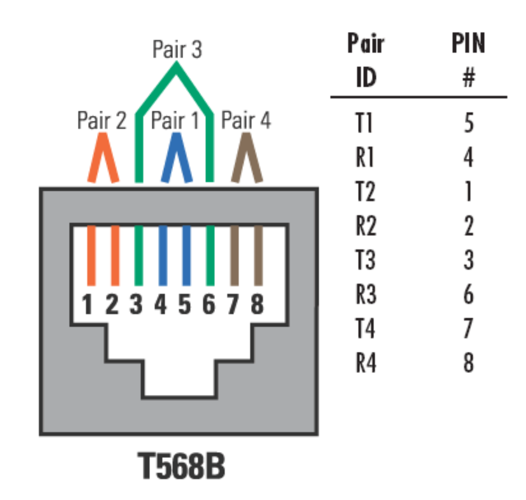
CAT5/5e/6 cabling for the Zektor SoloCAT™ series must be pinned to meet the TIAEIA T568A or T568B wiring specification standard. We also highly recommend that all CAT5 cables be pre-terminated and tested. Cables terminated on-site or in an existing infrastructure should be tested before use to ensure compliance with the TIA-EIA T568A or T568B specification. Using incorrectly terminated CAT5 cables can damage the Zektor SoloCAT™ product.

Termination Reference Diagrams





Pair ID	PIN #
T1	5
R1	4
T2	3
R2	6
T3	1
R3	2
T4	7
R4	8



Pair ID	PIN #
T1	5
R1	4
T2	1
R2	2
T3	3
R3	6
T4	7
R4	8

3. Setup and Installation

Cabling Considerations

- We recommend mounting and connecting all cabling to the SoloCAT™ Series components before applying power.
- Make sure that the CAT5 cable you intend to use has been tested to comply with the T568A or T568B wiring specification, the same termination must be used on both ends **(both ends must be T568B or T568A, DO NOT MIX!**)
- ***PLEASE NOTE: Failing to terminate these connections properly may result in power on the signal pins and void warranty.***

Making the Connections

This section contains figures showing connections with the specific SoloCAT™ Series models. A setup procedure at both ends must be identical. The Zektor SoloCAT™ does have a unique feature that allows the installer to input stereo analog audio to the transmitter side and utilize digital audio on the receiver side and vice versa. Connections are as follows:

Transmitter

1. Connect the source video to the SoloCAT™ Series transmitter video input port, which is either an HD15 connector for the VGA version or three separate RGB connections.
2. The audio connection is one of two options; Left / Right stereo analog or S/PDIF digital audio labeled L R or S/PDIF. **Applies only to the stand alone SoloCAT™ transmitter**.
3. Connect the CAT5 cable to the transmitter.
4. Power may be applied to either the transmitter or the receiver up to 500'. For distances greater than 500' up to 1000' an additional power supply is required.
5. The LED should light when power is applied. If the LED begins to blink, then power will need to be applied to both sides.
6. **When using the Zektor Prowler matrix switch, simply connect your CATX cable into the designated CATX output. The Prowler has the transmitter integrated into the switch.**

Receiver

1. Connect the display device to the SoloCAT™ Series receiver video output port to the three separate RCA connections for green, blue and red.
2. The audio connection is one of two options; Left / Right stereo analog or S/PDIF digital audio labeled L R or S/PDIF. ***On the SoloCAT™ wall plate receiver, the audio connection is black for left and white for right. The digital S/PDIF connection color is yellow.***
3. Connect the CATX cable to the receiver.
4. Power may be applied to either the transmitter or the receiver up to 500'. For distances greater than 500' up to 1000' an additional power supply is required***. Note: The SoloCAT™ wall plate version will support audio, video and power up to 1000' when transmitted from a Zektor Prowler CAT5 matrix switch. If the Decora® SoloCAT™ receiver is used with the SoloCAT™ transmitter, a maximum of 500' is supported. In addition, power will need to be applied at the transmitter side only***
5. The LED should light steadily when power is applied. There is no LED on Decora® version of the SoloCAT™
6. No ground is needed or recommended for the external wall mount or Decora® versions of the SoloCAT™ receiver

4. Brightness and Focus Adjustments

1. Start by setting brightness to its midway position, and set the focus adjustment to its minimum position.
2. Increase the focus adjustment until there is no blurring and no reflections on the horizontal edges.
3. Use the brightness control to set the desired picture brightness.

5. Troubleshooting

THERE ARE NO USER CONFIGURABLE SETTINGS ON THE SoloCAT TRANSMITTER
In most cases, nearly every issue with the SoloCAT™ Series can be resolved by checking the CAT5 termination and making sure that it's pinned correctly.
However, there may be other problems that may cause the system not to perform as has been designed. Below are solutions to the most common installation

Problem: Blinking red LED light on the SoloCAT™ receiver
Solution:

- Make sure the CAT5 cable is terminated correctly per the T568A or T568B wiring specification.
- Verify that that the cable has not been pierced or punctured
- Verify that there are no corroded ends
- Verify there are no severely pinched sections
- Make sure your distance is no longer than 1000'

Problem: No video signal at the display.
Solution:

- Check that at least one unit is powered, either at the transmitter or receiver. If connected to a Clarity Prowler, no power is required at the receiver
- Verify you have a solid red LED lit on the receiver
- Adjust the trim potentiometer just underneath the EQ letters that are screened onto the chassis slowly in both clockwise and counter clockwise until a picture appears. ***This is 99.9% of no video issues***. At the factory, Zektor tests with a full 1000' run of CAT5e. If your run is significantly less than 1000' it is likely that you just need to adjust the EQ setting.
- Make sure the CAT5 cable is terminated correctly per the T568A or T568B wiring specification.
- Is the display device powered on and functioning?



Problem: Poor video quality.
Solution:

- Have all receiver adjustments been completed?
- Check all cable connections.
- The video signal's refresh rate may be set too high for the display.
- Reset to a lower refresh rate in your monitor-configuration menu.
- Check cable routing to avoid close contact with electrical cable, lights, electrical junction boxes and/or electrical panels which can cause EMI/RFI interference with certain cable manufacturers.
- Check to see if the cable is pinched, mutilated or had an individual wire cut.

Problem: Poor audio quality or no audio at all
Solution:

- Powered speakers are required. Make sure speaker power is ON.
- Check input source levels from the source device.
- Make sure the audio source is not overdriven or underdriven. Verify that you are using the correct type of audio cable.
- Check cable routing to avoid close contact with electrical cable, lights, electrical junction boxes and/or electrical panels which can cause EMI/RFI interference with certain cable manufacturers.

Problem: Connected to another manufacturer product and it won't work at all
Solution: Buy a complete Zektor SoloCAT™ solution

- NEVER use a Zektor SoloCAT™ transmitter or receiver with another manufacturer's product.

Safety

This unit has no user serviceable components. Do not remove the cover of this unit under any circumstances. If the unit becomes defective, please call Zektor Incorporated at 858-748-8250 for a replacement. If the safety seal is broken the unit will not be replaced.

Emissions and Immunity

A Category 5 (or better) twisted pair cable must be used to connect the modules in order to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances. All other interface cables used with this equipment must be shielded in order to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances.

FCC Compliance Statement (United States)

This equipment generates, uses and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in Subpart J of part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area may cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Canadian Department of Communications RFI statement

This equipment does not exceed the class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications. *Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le règlement sur le brouillage radioélectriques publié par le ministère des Communications du Canada.*

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